GKOYANOY, A.A. , inzh.

Determining the traffic capacity of wharves. Rech.transp. 18 no.3:13-16 Mr '59.   (MIRA 12:4)
(Wharves) (Cargo handling)

GNOYANOY, A.A., inzh.

Distribution of cargo handling between equipment servicing the
quay side and the warehouses. Rech. trans. 18 no.8:17-19 Ag '59.
(MIRA 12:12)
(Loading and unloading) (Cargo handling)

GNOYANOY, A.A., inzh.

Substantiation of the number of loading and unloading machines
servicing the warehouses on the wharves of a port. Trudy GIIVT
no.49:18-26 '63.   (MIRA 18:6)

67501

~~16(1)~~ 16.3400   SOV/155-59-1-4/30

AUTHOR: Gnoyenskiy, L.S.

TITLE: On the Accumulation of Perturbations in Linear System

ABSTRACT: Given the equation

$$(1.1) \quad x^{(n)} + a_1(t) \, x^{(n-1)} + \ldots + a_n(t)x = f(t)$$

with coefficients continuous on $[0,T]$. Let $X(T)$ be the solution
of (1.1) in the moment T.

§ 1. If by $f(t)$ it is only known that $|f^{(k)}(t)| \leq M_k$ $(k > 0)$,
then the maximal value $X_{max}(T)$ is a monotonely increasing
function :

$$\lim_{T \to \infty} X_{max}(T) = \infty .$$

Let now $|f(t)| \leq M$ and $|f'(t)| \leq M_1$. By consideration of a
degenerated variation problem in this case the author obtains

Card 1/2

16.8000(1031, 1121, 1013)

AUTHOR: Gnoyenskiy, L.S. (Moscow)

TITLE: On the accumulation of perturbance in linear systems

PERIODICAL: Prikladnaya matematika i mekhanika, v. 25, no. 2, 1961, 319 - 331

TEXT: In this article the problem is discussed of determining, at the instant of time T the solution $y_{max}(T)$ of a linear differential or difference equation $L_n(y) = f(t)$ with $/f(t)/ \leqslant M_0$ in $[0, T]$ and $/f'(t)/ \leqslant M_1$. $L_n(y)$ is of the form

$$L_n(y) \equiv y^{(n)} + a_1(t)y^{(n-1)} + \ldots + a_n(t) y = f(t). \qquad (1.1)$$

The solution of (1.1) is of the form

$$y(T) = \int_0^T G(T, t) f(t) dt \qquad (1.3)$$

Card 1/5

On the accumulation of ...

28505
S/040/61/025/002/016/022
D201/D302

Writing $f'(t) = \varphi(t)$ gives

$$y(T) = \int_0^T F(t)\varphi(t)\,dt, \qquad F(t) = \int_t^T G(T, \tau)\,d\tau \qquad (1.4)$$

A function φ_m of class A [Abstractor's note: Class not defined] is considered satisfying

$$|\varphi(t)| \leqslant M_1, \qquad \left|\int_0^t \varphi(t)\,dt\right| \leqslant M_0 \qquad (1.6)$$

and producing a maximum value of

$$Y(\varphi) = \int_0^T F(t)\varphi(t)\,dt \qquad (1.7)$$

The algorithm for the maximum is as follows: t_j ($j = 2, \ldots, p$)

Card 2/5

On the accumulation of ...

are the extrema of $x = F(t)$ with $t_1 = 0$, $t_{p+1} = T$. The following notation is used: $H = \max F(t)$, $t \in [0, T]$, $z = H - F(t)$, $z^* = $ $= /- H - F(t)/ = H + F(t)$, and $\delta_j(z) = t_{jr}(z) - t_{j\ell}(z)$, $\delta_j(z^*) = $ $= t_{jr}(z^*) - t_{j\ell}(z^*)$. A function $\Phi_{ij}(z, z^*)$ is introduced, dependent on a parameter u, where i, j may take any value from 0 to p, $i < j$. If $z + z^* < 2H$, then

$$\Phi_{ij}(z, z') = \sum_{k=i+1}^{j}{}' \delta_k(z) - \sum_{k=i+1}^{j}{}^{\cdot} \delta_k(z') \qquad (2.1)$$

If for some u_α $z_a + z_a^* = \gamma_1(u_a) + \gamma_2(u_a) = 2H$ then for $u > u_a$ (and correspondingly $z > z_a$, $z^* > z_a^*$

$$\Phi_{ij}(z, z') = \sum_{k=i+1}^{j}{}' \delta_k(z_a) - \sum_{k=i+1}^{j}{}^{\cdot} \delta_k(z_a') \qquad (2.2)$$

Card 3/5

On the accumulation of ...

The maximum function $\varphi_m(t)$ is evaluated in stages. First stage: putting $z = z^* = u$ and α_1 the first value of $u > 0$ then for one of the functions $\Phi_{0j}(u, u)$,

$$/\Phi_{0j}(\alpha_1, \alpha_1)/ = C_0, \quad C_0 = \frac{M_0}{M_1}, \quad 0 \leqslant \alpha_1 \leqslant H,$$

and $\Phi_{0j}(u, u)$ increases in a neighborhood on the right of $u = \alpha_1$. Let $E_{\alpha_1}^+$ be the system of integrals in $[0, T]$ for which $F(t) > H - \alpha_1$, and $E_{\alpha_1}^-$ the system for which $F(t) < -H + \alpha_1$. If $\alpha_1 = H$ then φ_{α_1} is the maximum function. Otherwise, $\varphi_m(t)$ corresponds with $\varphi_{\alpha_1}(t)$ only on the set $E_{\alpha_1} = E_{\alpha_1}^+ + E_{\alpha_1}^-$. φ_m is now to be determined in the set $[0, T] - E_{\alpha_1}$. The form

Card 4/5

On the accumulation of ...

S/040/61/025/002/016/022
D201/D302

28505

$$\varphi_m(t) = M_1 \text{ sign}(F(t) - h_1) \tag{3.3}$$

is finally obtained, where at the points t_1, t_2, ..., t_{i_1}

$$f_m(t_1) = f_m(t_2) = \ldots = f_m(t_{i_1}) = M_0 \tag{3.2}$$

holds where for some left neighborhood of each of these points $f_m(t) < M_0$ and $h_1 \geqslant h_2 \geqslant \ldots \geqslant h_{i_1} \geqslant 0$ satisfy (3.3). There are 5 figures and 6 references: 5 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: B.J. Birch, and R. Jackson, The Behavior of Linear Systems with Inputs Satisfying Certain Bounding Conditions, Journal of Electronics and Control, First Series, April 1958, vol. VI, No. 4.

SUBMITTED: November 17, 1960

Card 5/5

GROYSMIY, L.S. (Moskva)

One method of optimization of follow-up systems. Prikl.
mat. i mekh. 25 no.5:948-953 S-O '61.   (MIRA 14:10)
                (Automatic control)

GNOYENSKIY, L. S. (Moskva); MOVSHOVICH, S. M. (Moskva)

Use of linear programming methods in a certain problem concerning the theory of servo systems. Izv. AN SSSR. Otd. tekh. nauk. Energ. i avtom. no.6:50-66 N '62.   (MIRA 16:1)

(Automatic control)

GNOYENSKIY, L.S. (Moskva)

Concerning a problem of optimum control. Prikl. mat. i mekh. 26
no.1:181-184 Ja-F '62.   (MIRA 15:1)
                     (Automatic control)

40114

S/040/62/026/004/010/013
D409/D301

AUTHOR: Gnoyenskiy, L.S. (Moscow)

TITLE: On the optimization of servo-systems

PERIODICAL: Prikladnaya matematika i mekhanika, v. 25, no. 4,
              1962, 766 - 771

TEXT: The optimization of a servo-system is considered, to whose
input the driving function $f(t)$ is applied, together with its deri-
vative $f'(t)$, amplified by the variable gain-factor $c(t)$. The servo-
system is described by the equation

$$L_n(y) \equiv a_0(t)y^{(n)} + a_1(t)y^{(n-1)} + \ldots + a_n(t)y = f(t) + c(t)f'(t) \tag{1}$$

with initial conditions

$$y(0) = y'(0) = \ldots y^{(n-1)}(0) = f(0) = 0 \tag{2}$$

It is assumed that the function $f(t)$ is filtered of high-frequency
noises. The mismatch $y(t)-f(t)$ is denoted by $\delta(t, f(\tau), c(\tau))$. It
is assumed that at a fixed moment of time T, the modulus of δ is

Card 1/3

On the optimization of servo-systems

S/040/62/026/004/010/013
D409/D301

bounded:
$$\sup_f /\delta(T, f(t), c(t))/ \leqslant A, /f'(t)/ \leqslant m, t \in [0, T] \qquad (5)$$

The problem is formulated as follows: It is required to find among the set of integrable functions $c(t)$ which satisfy the given conditions, a function $c_{min}(t)$, so that

$$\inf_c \sup_f /\delta_T'(T, f(t), c(t))/ \quad /f'(t)/ \leqslant m, t \in [0, T]$$

It is assumed that the function $f'(t)$ is obtained by accurate differentiation. The above problem is reformulated as follows: It is required to find, among the functions $\varphi(\tau)$, which satisfy certain conditions, a function $\varphi_{min}(\tau)$, on which

$$\inf_\varphi E( ) = \inf_\varphi m \int_0^T /R(\tau) + \varphi(\tau) \, G(\tau)/d\tau \qquad (15)$$

is realized; $\varphi(\tau) = c(\tau) - c^0(\tau)$, and R and G are related to the fundamental system of solutions of the homogeneous system corresponding to Eq. (1) and to its Wronskian W. Two new functions $\Psi(\tau, y)$
Card 2/3

On the optimization of servo-systems
$S/040/62/026/004/010/013$
$D409/D301$

and $\Phi(y)$ are introduced. After calculations, one obtains

$$\Psi_{min}(\tau) = \Psi(\tau, y_0) \equiv \psi^0(\tau) \tag{14}$$

where y_0 is the smallest root of the equation

$$\Phi(y) = A. \tag{15}$$

The validity of Eq. (14) is proved. The numerical calculations re-lating to the problem under consideration, i.e. the calculation of the fundamental systems of solutions is performed on digital- or analog computers. Thereupon, the functions R and ϕ^0 can be readily determined. The function $\Phi(y)$ is determined (from Eq. (15)) by the method of successive approximations. This is illustrated by an example.

SUBMITTED: September 20, 1961

Card 3/3

GNOYENSKIY, L.S. (Moskva)

Theory of the follow-up problem. Prikl. mat. i mekh. 26 no.5:960-965 S-O '62.   (MIRA 15:9)

(Automatic control)

ROYTENBERG, Yakov Naumovich; GNOYENSKIY, L.S., red.; EUDNO, K.F.,
tekhn. red.

[Some problems concerning the control of motion] Nekotorye
zadachi upravleniia dvizheniem. Moskva, Fizmatgiz, 1963.
138 p.   (MIRA 17:1)
                    (Motion)

GNOYENSKIY, L.S. (Moscow)

"On a problem of the control system synthesis".

report presented at the 2nd All-Union Congress on Theoretical and Applied
Mechanics, Moscow, 29 Jan - 5 Feb 64.

GNOYENSKIY, L.S. (Moskva); MOVSHOVICH, S.M. (Moskva)

Use of mathematical programming methods in a problem of
optimum control. Izv. AN SSSR. Tekh. kib. no.5:16-29 S-O '64.
(MIRA 17:12)

ACCESSION NR: AP4034530   S/0020/64/155/005/1022/1024

AUTHOR: Gnoyenskiy, L. S.

TITLE: Realization of controlled systems

SOURCE: AN SSSR. Doklady*, v. 155, no. 5, 1964, 1022-1024

TOPIC TAGS: control system, automatic control, cybernetics, ordinary differential equation, linear differential equation

ABSTRACT: The behavior of an automatically controlled system is determined, in the time interval $[0, T]$, by an nth order linear differential equation

$$L(y) = f(t) \qquad (1)$$

with zero initial condition, where the controlling function f belongs to the class F of piece-wise continuous functions whose modulus is bounded by a constant m_0. B. V. Bulgakov (DAN 60, no. 5, 1946) has solved the problem of determining $f^0 \in F$ for which the solution of (1) has maximum modulus at T (maximal accumulated error). This paper deals with the problem of realizing an automatically controlled system through minimizing the maximal accumulated error. The left side of equation (1) is assumed to be of the form $L(y) = L_1(y) + c(t)y$, where L_1 is an

Card 1/3

ACCESSION NR: AP4034530

n^{th} order operator, with constant or variable coefficients, corresponding to the unchanging part of the system, and the coefficient $c(t)$ (to be determined) belongs to the class II of piece-wise continuous functions bounded in modulus by a constant m_1. The physical meaning of $c(f)$ is that of a variable reinforcing coefficient. If $y(t,f,c)$ denotes the solution of (1) for given f and c, the problem is to find $c^0 \in H$ for which is realized,

$$I = \min_{c \in H} \max_{f \in F} | y(T,f,c) |.$$ The solution is based on the construction of a sequence of functions $c_i^0 \in H$ such that

$$R_{i+1} = \max_{f \in F} | y(T,f,c_{i+1}) | < R_i = \max_{f \in F} y(T,f,c_i)$$

Properties of the Green's function for equation (1) are used in the construction. Sufficient conditions are given for the convergence of the process to the desired value I, as well as an estimate of the number of steps needed. An upper bound is also given for the number of switchings of $c^0(t)$ in $(0,T)$ ($c^0(t)$ takes only the values m_1 and $-m_1$). The author states that the results obtained can be extended to the case in which one is to choose the coefficients of some of the derivatives

Card 2/3

ACCESSION NR: AP4034530

of $y(t)$, in $L(y)$, of order less than n-1. Orig. art. has: 5 formulas.

ASSOCIATION: Vsesoyuzny*y zaochny*y mashinostroitel'ny*y institut
(All-Union Machine-Building Correspondence Institute)

SUBMITTED: 21Nov63

SUB CODE: DP, MA

ATD PRESS: 3062

NO REF SOV: 004

ENCL: 00

OTHER: 000

Card | 3/3

S/024/62/000/006/004/020
E140/E135

AUTHORS: Gnoyenskiy, L.S., and Movshovich, S.M.   (Moscow)

TITLE: Application of a linear-programming method to a
             certain problem in the theory of servomechanisms

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye
            tekhnicheskikh nauk. Energetika i avtomatika, no.6,
            1962, 50-66

TEXT: The type of servomechanism considered is one in which
to the input signal (control signal) is added a component
proportional to its own first derivative, with a coefficient
varying in time, $f(t) + c(t) f'(t)$.   The system is described by
an n-th order differential equation and has zero initial conditions.
The input signal $f(t)$ is initially unknown, but it may be known
that it belongs to a given class of functions;   it is assumed to
have bounded rate of change, and $f'(t)$ has only a finite number
of discontinuities of the first kind in any finite interval.   The
signal $f(t)$ is freed of high-frequency noise by filtering.   The
gain factor $c(t)$ is assumed piecewise constant and bounded.
The quality factor of the system will be the error $y(t) - f(t)$,
Card 1/2

L 20499-65   EPF(n)-2/EWT(d)   Pg-4/Pk-4/Pl-4/Po-4/Pq-4/Pu-4   IJP(c)/ASD(h)-5/
AFMD(p)/ESD(dp)   WW/BC
ACCESSION NR: AP4048820   S/0280/64/000/005/0016/0029

AUTHOR: Gnoyeskiy, L.S. (Moscow); Movshovich, S. M. (Moscow)

TITLE: Application of the methods of mathematical programming to the problem of optimum control

SOURCE: AN SSSR. Izv. Tekhnicheskaya kibernetika, no. 5, 1964, 16-29

TOPIC TAGS: automation, control system optimization, mathematical programming

ABSTRACT: The problem examined in this article is as follows: The differential equation

$$\dot{X} = A(t)X + b(t)u(t), \qquad X(0) = X_0 \qquad\qquad (1)$$

with continuous coefficients describes the behavior of a controlled system, where A(t) is a square matrix of order n, X(t) and b(t) are the n - dimensional vectors. The control function u(t) is piecewise continuous and $|u(t)| \leq 1$. It is required to find such $u_{opt}(t)$ from a given class of functions which would return the system to the origin from a position X_0 ($x_{10}, \ldots, x_{nO}$) in the shortest time T_{opt}. A more general problem, in which the phase

Card   1/3

L 20499-65
ACCESSION NR: AP4048820

plane coordinate is bounded, i.e. $|x_i(t)| \leq m_i$, $i = 1, \ldots, n$, is also investigated. The solution of (1) is of the form

$$X(T, u) = \zeta(T) + \int_0^T G(T, t) u(t) dt. \qquad (2)$$

so that the difficulty of solution is not only determined by the order of equation (1) but also by the form of the integrand function $G_i(T, t)$ in Cauchy's formula (2) (such as the number of extremum points in the interval $[o, T]$). The integrand can be approximated by a finite sum with arbitrary accuracy, which reduces both problems to the problem of the location of the minimum of a convex multivariate function $\phi(\tau, u)$ in a bounded region. First, a piecewise constant approximation reduces the problems to finding a minimum of a convex function with linear boundaries. A piecewise linear approximation results in the problem of minimization of a convex function with convex and linear boundaries, reducing drastically the number of variables at the same time. Minimization of the time required by the system to return to its origin is accomplished. A simplification of the simplex method, which allows the use of reference-free programming plans, is proposed and results in definite computational advantages in transitions from one instant of time to the next. An iteration method is proposed for the solution of the first problem, based on the Kuhn-Tucker optimality

Card   2/3

ACCESSION NR: AP4048820

criterion and the Gol'shteyn-Yudin theorem (Avtomatika i Telemekhanika, 1963, XXIV, No. 12). It is shown that the derived algorithm gives a solution with a finite number of iterations. The method is then extended to the case of piecewise parabolic and piecewise polynomial approximation. This approximation allows a further decrease in the number of variable functions $\phi(T, u)$. The boundaries remain convex but their form becomes more complex with the increase in the degree of the polynomial. Orig. art. has: 47 equations, 3 tables and 1 figure.

ASSOCIATION: None

SUBMITTED: 03Jun64   ENCL: 00   SUB CODE: IE, DP

NO REF SOV: 007   OTHER: 002

Card   3/3

MALININ, N.S., dots., KISLOV, I.A., ispol, obyazannosti : : ;
GNOYEV, A.M., ispol, obyazannosti dots.

[Methods manual on projection with numerical marks and
perspective] Metodicheskoe posobie po proektsiiam s chis-
lovymi otmetkami i perspektive. Moskva, 1965. 75 p.
                                        (MIRA 18:12)
1. Moscow. Gidromeliorativryy institut. 2. Kafedra na-
chertatel'noy geometrii i chercheniya Gidromeliorativnogo
instituta.

SINITSYN, K.D., kand. tekhn. nauk; GMOYEV, P.S.; KRAVCHENKO, Ş.D.;
ANAN'YEV, V.I., otv. red.; MANVELOVA, Xe.S., tekhn. red.

[Testing new equipment for the manufacture of sausage]Is-
pytanie novogo oborudovaniia kolbasnogo proizvodstva. Mo-
skva, 1962. 87 p.   (MIRA 16:4)

1. Moscow. TSentral'nyy institut nauchno-tekhnicheskoy in-
formatsii pishchevoy promyshlennosti. 2. Vsesoyuznyy nauchno-
issledovatel'skiy institut myasnoy promyshlennosti (for
Sinitsyn, Gnoyev, Kravchenko).
          (Food machinery--Testing)

LAVROVA, A.P., kand. tekhn. nauk, SNOLOVOT, P.S., inzh., KALENOVA, M.S., starshiy nauchnyy sotrudnik; GOREVA, A.N., mladshiy nauchnyy sotrudnik; MOROZOVA, L.I., mladshiy nauchnyy sotrudnik; KHARITONO"o V.A., inzh.; KANAREVSKIY, A.A., inzh.; MAZYAKIN, A.V., inzh.; LISHFAY, V.M., inzh.; IL'YASHENKO, M.A., kand. veter. nauk; RYNDINA. V.P., inzh.; LOGINOVA, M.M., mladshiy nauchnyy sotrudnik; CHUDINA, S.A., mladshiy nauchnyy sotrudnik; TRUDOLYUBOVA, G.B., starshiy nauchnyy sotrudnik; KARGAL'TSEV, I.I., assistent; MIKHAYLOVA, A.Ye., mladshiy nauchnyy sotrudnik; KARPOVA, V.I., mladshiy nauchnyy sotrudnik, MERKULOVA, V.K., mladshiy nauchnyy sotrudnik; POLETAYEV, T.N., mladshiy nauchnyy sotrudnik

Study of the heat treatment conditions of smoked and cooked sausage. Trudy VNIIMP no.16:24-63 '64.   (MIRA 18:11)

1. Kafedra tekhnologii Moskovskogo tekhnologicheskogo instituta myasnoy i molochnoy promyshlennosti (for Kargal'tsev).

YERGALIYEV, E.Ye.; GROYEVYKH, B.M.

    Conveying machine for copper pouring. Tsvet. met. 33 no.10:79-80
O '60.   (MIRA 13:10)

    1. Irtyshskiy polimetallicheskiy kombinat.
        (Copper--Metallurgy)   (Conveying machinery)

GNOYEVYKH, M.A., inzh.

Irrigation by the use of extended furrows and strips in the
Ukraine. Gidr. i mel. 13 no.11:19-21 N '61.   (MIRA 14:10)

1. Ukrainskaya akademiya sel'skokhozyaystvennykh nauk.
                    (Ukraine--Irrigation)

GNOYEVAYA, V. L.

Gnoyevaya, V. L. -- "Hygienic Evaluation of Food Plant Concentrates."
Acad Med Sci USSR. Moscow, 1956. (Disseration For the Degree in Candidate
in Medical Sciences).

So: Knizhnaya Letopis', No. 11, 1956, pp 103-114

GNOYEVAYA, V. L.

Fluorine metabolism. M. I. Krylova and V. L. Gnoe-
vaya (Erisman Sci. Research Sanit. Inst., Moscow). Vo-
prosy Pitaniya 15, No. 4, 37-41(1956).—Expts. conducted
with white rats indicated that the retention of the dietary
F is nearly the same for inorg. (NaF) and org. (in feeds)
F compds. (55-65% retention from the daily allowances of
0.211-0.254 mg. F). The amt. of F excreted with feces
was greater than that excreted with urine when the rats
received 500 mg. CaCO₃/day; the reverse was true for the
rats receiving no addnl. Ca. Women 25-35 years old, re-
ceiving 1.913-2.260 mg. F/day, also showed a pos. F bal-
ance (12-27% retention). Under normal dietary conditions
(3400 kcal./day) the excretion of F in the urine was greater
than that in the feces (1.125-1.641 and 0.277-0.439 mg./day
of the dietary F, resp.). The same degree of the F utiliza-
tion was found for both the inorg. and org. F allowances.
E. Wierbicki

GNOYEVAYA, V. L.

Role of various vegetables in mineral metabolism of children. V. L. Gnoevaya, K. A. Kulkina, V. F. Rubinovich, and L. M. Vekua (Erisman Sci.-Research Sanit. Inst., Moscow). Voprosy Pitaniya 19, No. 5, 77-4(1950). Three boys, 8-9 years old, received for 11 days a special diet of 2200-2300 kcal. in which the main component was a mixt. of cereals (100 g.); in the exptl. diets 85 g. of the cereals were replaced in the equiv. cal. amt. by white (I) (contg. 40 mg. % Ca.) or red (II) cabbage. During the last 6 days of the nutritional expt. the amts. of N, Ca, P, Mg, and Mn taken in with the diet and excreted with feces and urine were detd. The daily dietary intake of N, Ca, and P for the control and the I- and II-contg. diets were 8.73, 11.13, and 10.43 (N); 0.512, 0.702, and 0.726 (Ca); and 1.144, 1.350, and 1.187 (P), resp. Av. daily balances of the nutrients were N, +0.45, 2.33, and 0.04; Ca, +0.131, 0.269, and 0.228; P, +0.159, +0.303, and −0.113; Mg, +0.073, 0.045, and 0.037; and Mn +0.00138, 0.00310, and 0.00048 g., resp. Thus, I and II greatly differ in their effects on the N and P balances.

E. Wletbick

GNOYEVAYA,V.L., kandidat meditsinskikh nauk; IVANOVA, Ye.N., kandidat
meditsinskikh nauk (Moskva)

Participation of feldshers in the sanitary inspection of food stores.
Fel'd. i akush. 21 no.9:45-49 S '56.   (MLRA 9:10)
            (GROCERY TRADE--HYGIENIC ASPECTS)

KRYLOVA, M.I.; GNOYEVAYA, V.L.; SRIBNER, E.A.

Effect of the type of diet on fluorosis morbidity. Vop.pit. 16
no.1:48-52 Ja-F '57.   (MLRA 10:3)

1. Iz otdeleniya gigiyeny pitaniya (zaveduyushchiy - professor
N.I.Orlov) Gosudarstvennogo nauchno-issledovatel'skogo instituta
imeni Erismana, Moskva.
        (FLUORINE, pois.
            fluorosis, exper., relation to calcium intake in rats
            (Rus))
        (CALCIUM, metab.
            intake, relation to develop. of exper. fluorosis in rats
            (Rus))

GNOYEVAYA, V.L., kand. med. nauk.; IVANOVA, Ye.N., kand. med. nauk (Moskva)

Role of the feldsher in the sanitary inspection of the collective
farm market. Fel'd i akush. 22 no.6:37-40 June '57.   (MIRA 12:3)
(MARKETS--SANITATION)

SHITSKOVA, A.P.; GMOYEVAYA, V.L.; KALININA, K.A.; MASHEVSKAYA, M.I. (Moskva)

Role of certain vegetables in mineral metabolism in children [with summary in English]. Vopr.pit. 17 no.1:54-58 Ja-F '58. (MIRA 11:4)

1. Iz otdeleniya pishchevoy gigiyeny (zav. - prof. N.I.Orlov) Moskovskogo nauchno-issledovatel'skogo sanitarnogo instituta imeni F.F.Erismana.
(VEGETABLES, effects,
    on mineral metab. in child. (Rus))
(NITROGEN, metabolism,
    eff. of vegetables in child. (Rus))
(CALCIUM, metabolism,
    same)
(PHOSPHORUS, metabolism,
    same)
(AGNESIUM, metabolism,
    same)

GNOYEVAYA, V.L.; KRYLOVA, M.I.; RUSSKIKH, V.V.

Evaluation of the new insecticide methylethylthiophos with special
reference to food hygiene. Gig. i san. 24 no.5:34-38 My '59. (MIRA 12:7)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta sanitarii i
gigiyeny imeni F. F. Erismana Ministerstva zdravookhraneniya RSFSR.
          (PHOSPHATES, toxicity,
               methylethylthiophos, animal studies (Rus))

RUSIN, Nikolay Mikhaylovich; GNOYEVAYA, Vera Leont'yevna; BONDAREV, G.I.,
        red.; SENCHILO, K.K., tekhn. red.

[Some problems in food hygiene in rural areas] Nekotorye voprosy
gigieny pitaniia v sel'skoi mestnosti. Moskva, Gos. izd-vo med.
lit-ry Medgiz, 1961.   146 p.   (MIRA 14:7)
            (RESTAURANTS, LUNCHROOMS, ETC.—SANTITATION)
            (FOOD—ANALYSIS)   (FOOD POISONING)

DENISOV, G. Ye., inzh.; GNOYEVETS, I. F.

Experience in the consolidation of main and approach lines.
Put' i put. khoz. 6 no.10:8-13 '62.   (MIRA 15:10)

1. Nachal'nik Chistyakovskoy distantsii Donetskoy dorogi
(for Denisov). 2. Nachal'nik Shterovskoy distantsii Donetskoy
dorogi (for Gnoyevets).

(Railroads—Consolidation)

L 63241-65
ACCESSION NR: AP5018892

UR/0310/65/000/007/0056/0058
656.62 (597.1) 003

AUTHORS: Bui-Din'-T'yep (Dean of exploitation faculty); Gnoyankin, A. (Senior lecturer); Ragozin, B. (Candidate of technical sciences); Yumin, K. (Candidate of technical sciences)

TITLE: Water transport in the democratic republic of Viet Nam

SOURCE: Rechnoy transport, no. 7, 1965, 56-58

TOPIC TAGS: ship navigation, naval vessel, naval equipment, transportation

ABSTRACT: Navigation conditions and types of vessels in North Viet Nam are described. The main water transportation lines are the T'an-Hyo-Wen channel running parallel to the sea coast and the river systems of the Red river (with the tributaries Ta and Lo), the T'ai Pin river, and the "fourth zone" rivers Ma, Ch'u, and others. These waterways are navigable the year round, but their depths differ with seasons. The current velocities range from 0.8 to 7 km/hour, reaching 10 km/hr in some places. Tides in the marine ports of Tonkin Bay reach 1.5 m on the average and 4 m in the main river estuaries. All freighters belong to two government owned steamship companies, the passenger ships to one company of combined government-private ownership. The sailboats and rowboats are private. The river fleets

Card 1/2

L 63241-65
ACCESSION NR: AP5018892

9

consist of steamers (45 to 220 hp) bought in Red China, wooden or metal barges, and 108-hp towboats. Average passenger ships were designed for 130 persons, with the largest, the "Da Nang," for 360. Freighters with a carrying capacity of 600-750 tons tons, towboats of 500 hp, and 500-800 ton barges were used on minor coast routes. Large numbers of smaller sailing vessels (10-15 tons) operate in the internal water-ways. Main seaports are Hon Gai, Haiphong, and Ben Thuy. They are equipped with modern, highly mechanized loading systems consisting of steam- and power-operated cranes, auxiliary railroads, and long-range coal-loaders. Orig. art. has: 1 table and 5 photographs.

ASSOCIATION: Khanoyskiy institut inshenerov transporta (Hanoi Institute of Transpor-tation Engineers) / Bui/; GIIVT / Gnoyanoy_7; NIIVT / Ragozin, Yimin/

SUBMITTED: 00   44,55   44,55 ENCL: 00   44,55   SUB CODE: 00

NO REF SOV: 000   OTHER: 000

Card 2/2

GNOYEVOY, A.I.; SAVENKO, Yu.F.; DMITRIYEV, V.A.

Work practices of the V.T.Shchebotovskii brigade in a longwall equipped with a USB-2 coal plow. Ugol' 40 no.3:6-10 Mr '65.
(MIRA 18:4)

1. Shakhta No.54 tresta Antratsit (for Gnoyevoy). 2. Kommunarskiy gornometallurgicheskiy institut (for Savenko, Dmitriyev).

GNOYEVOY, P.; MALYUTIN, P.; LAVROVA, G.

Mechanization of thermal processing of sausages. Mias. ind.
SSSR 32 no.3:13-15 '61.   (MIRA 14:7)
(Sausages—Equipment and supplies)

GNOYEVOY, P.

A book with many shortcoming defects ("Euipment of enterprises of
the meat industry" by G.A. Faleev. Reviewed by P. Gnoevoi).
Mais. ind. SSSR 32 no.3:58 '61.   (MIRA 14:7)
            (Meat industry—Equipmen and supplies)
                    (Faleev, G.A.)

GORBATOV, V. M.; GNOYEVOY, I. S.; MASYUKOV, V. N.

"On the results of experimental determination of thermal parameters of sausages fine structure."

report presented at the 10th Annual Mtg, European Meat Research Workers' Association, Roskilde, Denmark, 7-15 Aug 65.

All-Union Res Inst of the Meat Industry, Talalikhin 26, Moskva

GORBATOV, V.M.; MALYUTIN, P.I.; GNOYEVOY, P.S.; DOLGOVSKIY, V.V.,
otv. za vyp.; MANVELOVA, Ye.S., tekhn. red.

[Fine grinding of meat]Tonkoe izmel'chenie miasa. Mo-
skva, TSentr. in-t nauchno-tekhn. informatsii pishchevoi promyshl.,
1962. 21 p.   (MIRA 16:4)
            (Meat grinders)

GNOYEVOY, P.S., inzh.; NOVIKOV, V.G., inzh.; GORBUNOV, M.A., inzh.;
KONAREVSKIY, A.A., inzh.; BESSTRASHNOVA, G.M., mladshiy
nauchnyy sotrudnik; GINZBURG, O.M., mladshiy nauchnyy
sotrudnik; SKOBELEV, M.V., mladshiy nauchnyy sotrudnik

Experimental unit for studying the thermal and humidifying
processes in sausage production. Trudy VNIIMP no.12:104-
111 '64.   (MIRA 18:2)

26.2195

AUTHOR: Gnoyevskiy, L.S. (Moscow)

TITLE: On the problem of optimal control

PERIODICAL: Akademiya nauk SSSR. Otdeleniye tekhnicheskikh nauk. Prikladnaya matematika i mekhanika, v. 26, no. 1, 1962, 181-184

TEXT: The control system is described by Eqs.(1) and (2)

$$\dot{x}_j + \sum_{k=1}^{n} a_{jk}(t)x_k = b_i u(t) \qquad (j = 1, \ldots, n) \qquad (1)$$

$$|u(t)| \leq m \qquad (2)$$

The solution $x(x_1 \ldots x_n)$ satisfies at $t=0$, initial conditions $x=x_0(x_{1o} \ldots x_{no})$ and a set N_k is given such that $x(x_1 \ldots x_n) \in N_k$, then $x_1 = a_1 \ldots x_k = a_k$, where $a_1 \ldots a_k$ are constants. It is assumed that there

Card 1/2

On the problem of ...

S/040/62/026/001/020/023
D237/D304

exists a set V of functions $u(t)$ satisfying (2) such that if $u(t) \in V$, then the solution of (1) is transposed from x_0 into Nk. The problem consists of finding such a function $u_{min}(t)$ which would transpose the solution from x_0 into N_k in the shortest time. This problem was investigated by other authors and general results were obtained. The author solves it for the practically important case $k=2$, by a generalized method of accumulation of perturbations. It is similar to the method used by N.N. Krasovskiy (Ref. 3, Avtomatika i telemekhanika, v. 18, no. 11, 1957), but differing from it in details. There are 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: R. Bellman, I. Hickeberg and O. Cross, Quarterly Applied Mathematics, v. 14, no. 1, 1956.

SUBMITTED: July 7, 1961

Card 2/2

protein hydrolysates in fur farming. Her.

BYCHKOV, V.P.; GNTUNI, Zh.S.; CHURSIN, P.I.

Analyzing the effect of routine perturbances and parameters
of the system on static conditions of the electric drive of
a continuous mill. Izv. AN Arm. SSR. Ser. tekh. nauk 16
no.6:57-61 '63.   (MIRA 17:1)

GNTUNI, Zh.S., kand. tekhn. nauk

Effect of type disturbances and parameters of the electric
drive of the finishing group of a continuous sheet-rolling
mill on the tension and thickness of a hot sheet. Sbor.
nauch. trud. FPI 22:11-23 '64.

(MIRA 18:12)

Russia (1921-) Upravleniye Uchebnykh
Zavedeniy.
   Bibliografiya Yestestvenno nauchnoy
Literatury (Bibliography of Natural
Science Literature, by) N. , Frons'eryn.
Moskva, Gorkult prosvetiz at, 1956-
      V. Illus.
   Bib. Har: 1956

LW

KOLCHIN, Nikolay Iosafovich, prof.; GNUCHEV, Mikhail Vladimirovich,
    dotsent; NARYSHKIN, I.I., otv.red.

[Design of mechanisms of industrial machinery] Raschet i proekti-
rovanie mekhanizmov proizvodstvennykh mashin; konspekt lektsii pro-
fessora N.I.Kolchina obrabotan i dopolnen dotsentom M.V.Gnuchevym.
Leningrad, 1960. 73 p.   (MIRA 14:6)

1. Leningrad. Politekhnicheskiy institut.
        (Machinery—Design and construction)

L.9488-66   ETC(m)   WW   SOURCE CODE: UR/2563/65/000/250/0029/0033   31

ACC NR: AT5028812   B+1

AUTHOR: Gnuchev, M.V.; Rozanov, L.N.; Pechatnikov, M.S.

ORG: Leningrad Polytechnic Institute (Leningradskiy politekhnicheskiy institut)

TITLE: A bellows-volumetric manometer for pressure measurements in logarithmic units

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 250, 1965. Avtomatizatsiya i tekhnologiya mashinostroyeniya (Automation and technology of machinery manufacture), 29-33

TOPIC TAGS: manometer, pressure gage, pressure measuring instrument

ABSTRACT: There are still no simple, universal designs of mechanical manometers fit for industrial production. Usually the designs incorporate metal or metallized membranes as the pressure sensors in these devices, and bellows are rarely used because of the frequent appearance of residual deformations due to a low elastic limit. The present authors note that bellows should not be disregarded; bellows have a higher sensitivity and make it possible to considerably reduce the size of manometers without sacrificing operating parameters. This paper attempts to investigate the possibilities of bellows manometers for measuring pressures in a broad range (three and more orders of magnitude). A description is given of the design of a manometer for pressures of $10^5 - 10^1$ n/m^2 (760-1 mm Hg). Fig. 1 shows an equivalent diagram of a manometer with three bellows represented in the figure as springs. The relationship of the area of the bellows f_i to rigidity g_i (where i is the number of the bellows,
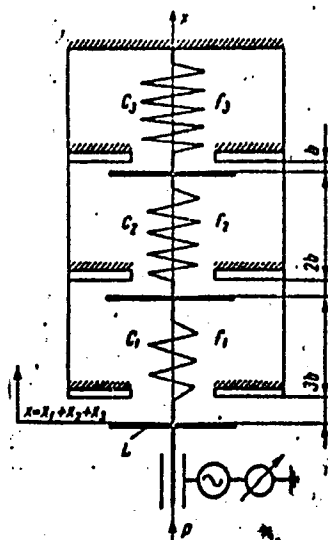
Card 1/3

L 9488-66

ACC NR: AT5028812

Fig. 1. Equivalent diagram of a bellows
manometer: C and f are the rigidity and
area of the bellows; L is the manometer
carriage, connected to the inner casing
of the cylindrical condenser; b is the gap
between the rigid annulus and the support
in the manometer housing; P is pressure

starting from the lowest one) is selected in such a way as to obtain appreciable
deformation in various ranges of pressure. Every bellows has a deformation
limiter. The design described applies in all cases requiring measurements of
large pressure ranges in low and medium vacuum. The high value of the overall

Card 2/3

L 9488-66

ACC NR: AT5028812

variation in the capacity simplifies the electrical circuit of the device which, together with the linearity of the characteristic, makes it applicable for industrial uses. Orig. art. has: 4 figures, 9 formulas, and 1 table.

SUB CODE: 13, 14 / SUBM DATE: none / OTH REF: 003

Card 3/3

BLOKHOV, V.P.; GNUCHEV, N.N.

Result of a simultaneous plate and inclined media in the examina-
tion of normal subjects as carriers of Loeffler's bacillus. Zhur.
mikrobiol.epid.i immun. 31 no.11:79-80 N '60.   (MIRA 14:6)
          (BACTERIOLOGY—CULTURES AND CULTURE MEDIA)
               (CORYNEBACTERIEM DIPHTHERIAE)

BLOKHOV, V.P.; GNUCHEV, N.N.

Uselessness of Strogov's medium as a test object in differentiating
saprophytic from pathogenic bacteria of the enteric group. Zhur.
mikrobiol.epid.i immun, 32 no.3:69-70 Mr '61.   (MIRA 14:6)
          (INTESTINES—MICROBIOLOGY)
             (BACTERIOLOGY—CULTURES AND CULTURE MEDIA)

GMUCHEV, N. N., (Major of the Medical Service), and BLOKHEV, V. P., (Guards Lieutenant Colonel of the Medical Service)

"Experience in the Use of K. V. Yekinova's Medium Enrichment for Bacteriological Examination for Dysentery Pathogens"

Voyenno-Meditsinskiv Zhurnal, No. 12, December 1961, pp 62-73

BLOKHOV, V. P., gvardii podpolkovnik meditsinskoy sluzhby; GRIUCHEV, N. N., mayor meditsinskoy sluzhby

Use of K. V. Efimova's enriching medium in the bacteriological study of the causative agent of dysentery. Voen.-med. zhur. no.12:64-65 D '61.   (MIRA 15:7)

(BACTERIOLOGY—CULTURES AND CULTURE MEDIA)
(DYSENTERY)

KHOMUTOV, R.M.; KARPEYSKIY, M.Ya.; SEVERIN, Ye.S.; GNUCHEV, N.V.

Mechanism of the interaction of cycloserine with pyridoxal and pyridoxal enzymes. Dokl. AN SSSR 140 no.2:492-495 S '61.
(MIRA 14:9)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR.
Predstavleno akademikom V.A.Engel'gardtom.
(Isoxazolidinone) (Pyridoxal)

BRAUNSHTEYN, A.Ye.; GNUCHEV, N.V.; POZNANSKAYA, A.A.

Nonenzymatic reamination of δ-aminolevulinic acid. Dokl. AN SSSR
152 no.5:1239-1242 O '63.   (MIRA 16:12)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR.
2. Chlen-korrespondent AN SSSR (for Braunshteyn).

CNUCHEV, M.V., RIKMAN, I.A., POZNANSKAYA, A.A.

Synthesis of 5-aminolevulinic (5-C^{14}) and 4,5-dioxovaleric-
(5-C^{14}) acids. Biokhimiia 30 no.1:161-164 Ja-F '65.
(MIRA 18:6)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN
SSSR, Moskva.

DUBROV, N.F., kand. tekhn. nauk; MIKHAYLOV, O.A., kand. tekhn. nauk;
FEL'DMAN, I.A.; DANILOV, A.M.; SOROKIN, P.Ya., kand. tekhn. nauk,
starshiy nauchnyy sotrudnik; BUTAKOV, D.K., kand. tekhn. nauk,
dots.; SOYFER, V.M.; LATASH, Yu.V., mladshiy nauchnyy sotrudnik;
ZAMOTAYEV, S.P.; BEYTEL'MAN, A.I.; SAPKO, A.I.; PETUKHOV, G.K.,
kand. tekhn. nauk; YEDNERAL, F.P., kand. tekhn. nauk, dots.;
LAPOTYSHKIN, N.M., kand. tekhn. nauk, starshiy nauchnyy sotrudnik;
ROZIN, R.M.; NOVIK, L.M., kand. tekhn. nauk, starshiy nauchnyy
sotrudnik; LAVRENT'YEV, B.A.; SHILYAYEV, B.A.; SHUTKIN, N.I.;
GNUCHEV, S.A., kand. tekhn. nauk, starshiy nauchnyy sotrudnik;
LYUDMAN, K.F., doktor-inzh., prof.; GRUZIN, V.G., kand. tekhn.
nauk; BARIN, S.Ya.; POLYAKOV, A.Yu., kand. tekhn. nauk; FEDCHENKO,
A.I.; AGEYEV, P.Ya., prof., doktor; SAMARIN, A.M.; BOKSHITSKIY,
Ya.M., kand. tekhn. nauk; GARNYK, G.A., kand. tekhn. nauk;
MARKARYANTS, A.A., kand. tekhn. nauk; KRAMAROV, A.D., prof.,
doktor tekhn. nauk; TEDER, L.I.; DANILOV, P.M.

Discussions. Biul. TSNIICHM no.18/19:69-105 '57.   (MIRA 11:4)

1. Direktor Ural'skogo instituta chernykh metallov (for Dubrov).
2. Direktor TSentral'nogo instituta informatsii chernoy metallur-
gii (for Mikhaylov). 3. Nachal'nik nauchno-issledovatel'skogo
otdela osobogo konstruktorskogo byuro tresta "Elektropech'" (for
Fel'dman). 4. Nachal'nik martenovskoy laboratorii Zlatoustovskogo
metallurgicheskogo zavoda (for Danilov, A.M.). 5. Laboratoriya
protsessov stalevareniya Instituta metallurgii Ural'skogo filiala
AN SSSR (for Sorokin).

DUBROV, N.F.---(continued) Card 2.

6. Ural'skiy politekhnicheskiy institut (for Butakov). 7. Starshiy
inzhener Bryanskogo mashinostroitel'nogo zavoda (for Soyfer).
8. Institut elektrosvarki im. Patona AN UReS (for Latash). 9. Na-
chal'nik TSentral'noy zavodskoy laboratorii "Uralmashzavoda" (for
Zamotayev). 10. Dnepropetrovskiy metallurgicheskiy institut (for
Sapko). 11. Moskovskiy institut stali (for Yedneral). 12. TSentral'-
nyy nauchno-issledovatel'skiy institut chernoy metallurgii (for
Gmuchev, Lapotyshkin). 13. Starshiy master Leningradskogo zavoda
im. Kirova (for Rozin). 14. Institut metallurgii im. Baykova AN
SSSR (for Novik, Polyakov, Garnyk). 15. Nachal'nik tekhnicheskogo
otdela zavoda "Bol'shevik" (for Lavrent'yev). 16. Starshiy inzhe-
ner tekhnicheskogo otdela Glavspetsstali Ministerstva chernoy
metallurgii (for Shilyayev). 17. Zamestitel' nachal'nika tekhni-
cheskogo otdela zavoda "Elektrostal'" (for Shutkin). 18. Frey-
bergskaya gornaya akademiya, Germanskaya Demokraticheskaya
Respublika (for Lyudeman). 19. Zaveduyushchiy laboratoriyey stal'-
nogo lit'va TSentral'nogo nauchno-issledovatel'skogo instituta
tekhnologii i mashinostroyeniya (for Gruzin). 20. Starshiy master
elektrostaleplavil'nykh pechey Uralvagonzavoda (for Barin).
21. Zamestitel' nachal'nika elektrostaleplavil'nogo tsekha zavoda
"Sibelektrostal'" (for Fedchenko). 22. Zaveduyushchiy kafedroy
metallurgii stali i elektrometallurgii chernykh metallov Lenin-
gradskogo politekhnicheskogo instituta (for Ageyev). 23. Zame-
stitel' direktora Instituta metallurgii im. Baykova AN SSSR, chlen-
korrespondent AN SSSR (for Samarin).

DUBROV, N.F.——(continued) Card 3.
24. Nachal'nik laboratorii TSentral'nogo nauchno-issledovatel'skogo
instituta chernoy metallurgii (for Bokshitskiy). 25. Zaveduyushchiy
kafedroy elektrometallurgii Sibirskogo metallurgicheskogo insti-
tuta (for Kramarov). 26. Nachal'nik elektrostaleplavil'nogo tsekha
Kuznetskogo metallurgicheskogo kombinata (for Tedor). 27. Nachal'-
nik elektrometallurgicheskoy laboratorii Kuznetskogo metallurgiche-
skogo kombinata (for Danilov, P.M.).
                              (Steel--Metallurgy)

GNUCHEV, 3. M.

The apprentice millhand on electric furnaces in the steel works. Sverdlovsk, Gos.
nauch.-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1943. 123 p. (V pomoshch'
rabochim massovykh professii) (50-4046)

TN706.96

LEYKIN, V.Ye.; SAKHARUK, P.A.; GNUCHEV, S.M., kandidat tekhnicheskikh nauk,
redaktor.

[Electrometallurgy of steel and iron alloys] Elektrometallurgiia
stali i ferrosplavov. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po
chernoi i tsvetnoi metallurgii. 1953. 639 p.   (MLRA 7:6)
    (Steel--Electrometallurgy) (Iron alloys--Electrometallurgy)

GNUCHEV, S.M.

A053   AEC-tr-2435((Pt. 3) (p. 39-48))
INVESTIGATION OF NON-METALLIC INCLUSIONS BY
RADIOGRAPHY. S. M. Gnuchev and V. G. Kuklev. p. 39-
48 of CONFERENCE OF ACADEMY OF SCIENCES OF THE
USSR ON THE PEACEFUL USES OF ATOMIC ENERGY,
JULY.1-5, 1955. SESSION OF THE DIVISION OF TECH-
NICAL SCIENCE. (Translation). 10p.
     This paper was originally abstracted from the Russian
and appeared in Nuclear Science Abstracts as NSA 9-7800.

GNUCHEV, S. M.

INVESTIGATION OF NON-METALLIC INCLUSIONS BY MC-
TOGRAPHY. S. M. Gnuchev and Y. G. Kuklev. p.69-
Meetings of the Division of Technical Sciences.
Section of the Academy of Sciences of the U.S.S.R. on the
Peaceful Use of Atomic Energy. July 1-5, 1955. Moscow,
Publishing House of the Academy of Sciences of the U.S.S.R.,
1955. 353p. (In Russian)

A radioactive calcium isotope was used in a study of the
effect of the pouring method on the distribution of non-
metallic inclusions in the ingot. For this purpose powdered
calcium oxide or silicate containing the radioactive isotope
was added to the steel while pouring. The particle size of
the powder varied mainly between 16 and 40 microns. A
study was made of the distribution of the inclusions in the
ingot caused by the first portions of the metal, entering in
the mould inclusions which got into the ingot while it is being
bottom or top poured, and of those which enter it during
after-teeming the top of the ingot. The distribution of the
inclusions in the ingot was investigated by contact auto-
radiography control of the surface of longitudinal specimens

out from 75- and 300-kg ingots. For the autoradiograms
Soviet "XX" grade film was used. In some cases the data
obtained by analysis of the radiograms were corroborated
by counting the activity of precipitates of the non-metallic
inclusions electrolytically isolated from the metal with a
counter of the Geiger-Müller type. Analysis of the auto-
radiograms showed that in both pouring methods—bottom
and top pouring—mainly the bottom part of the ingot is
contaminated, and that the contamination is greater in the
case of after-teeming. Radioactive inclusions which were
brought into the ingot during after-teeming were found also
in the top of the ingot. Under equal conditions of contamina-
tion of the incoming metal with radioactive inclusions less
inclusions were found when the metal was bottom poured than
when it was top poured. Autoradiograms show that a con-
siderable part of the active inclusions remains in the central
runner. During bottom pouring part of the radioactive in-
clusions were carried into the surface of the ingot due to
the movement of the metal in the mould under the action
the rising stream. (auth)

Gnuchev, S.M.

The determination of oxygen by the aluminum method during the smelting of alloy steels in electric furnaces. S. M. Gnuchev, *Zavodskaya Lab.* 21, 24-5(1955).—The method is intended for the detn. of O in Mn, Cr, V, and Si-contg. structural steels, and the results compare satisfactorily with those obtained by vacuum melting. W. M. S.

GNUCHEV, S.M., kandidat tekhnicheskikh nauk.

Behavior of oxygen in an electric furnace bath in the process of
metal smelting by oxygen blasting. Sbor.trud.TSNIICHM no.13:354-367
'56.   (MLRA 9:11)
         (Electrometallurgy)
         (Oxygen--Industrial applications)

Gauchev, S.M.

9598. **Behavior of Oxygen and Nitrogen in the Bath of the Electric Arc Furnace During Oxidation With Oxygen and With Ore.** Povedenie kisloroda i azota v vanne elektropechi pri okislenii kislorodom ili rudoi. (Russian.) S. M. Gnuchev, G. K. Komissarov, and Z. V. Kloshkova. Stal', v. 10, no. 4, Apr. 1950, p. 323-327.

Behavior does not depend on whether the metal is oxidized with O or with ore. In the case of O, however, the upper limits of concentration of O and N in the metal are reached in a shorter time and with less consumption of electric power. Tables, graphs. 2 ref.

Central Sci. Res. Inst. Ferrous Metallurgy

$C \kappa u c h e v$, $S. M.$

137 1958 2-2495

Translation from: Referativnyy zhurnal, Metallurgiya, 1958. Nr 2. p 44 (USSR)

AUTHOR: Gnuchev, S. M

TITLE: Studying Nonmetallic Inclusions in Steel by Radiography (Metodika izucheniya nemetallicheskikh vklyucheniy v stali pri pomoshchi radiografii)

PERIODICAL: V sb.: Fiz.-khim. osnovy proiz-va stali Moscow, AN SSSR, 1957, pp 633-644. Diskus., pp 650-655

ABSTRACT: A detailed description is given of a method of discovering in steel by contact radiography artificial nonmetallic inclusions containing the radioactive isotope Ca^{45}. Before being contact-radiographed, the surface of the templets was wet-polished and carefully degreased. The templets were then stacked on the floor of a dark chamber and were covered with two KhKh X-ray films, opaque paper, a rubber lining, and a plate of Plexiglas. On top of the Plexiglas was placed a weight. Exposure time was 5-6 days, but to show up the outlines of the templets the film was first faintly flashed for 1 second. It was found that H_2O_2 vapors, wood, oil, and oil-bearing pigments caused the film to darken; it was found too that, in order to obtain a comparable

Card 1/2

137-1958-2-2495

Studying Nonmetallic Inclusions in Steel by Radiography

exposure density, the film had to be developed under standard conditions   By introducing into the molten metal Ca^{45} in the form of $CaCO_3$, CaO, and metallic Ca, then taking contact radiographs, it was shown that the metallic Ca contained impurities of radioactive P^{32} and S^{35}, which produced exposure spots on the film; this made it difficult to identify the exposure spots produced by the Ca^{45}. By contrast, the $CaCO_3$ and CaO contained no impurities. Contact radiographs of templets from 75-kg ingots, into which artificial nonmetallic inclusions had been both siphoned and introduced from above during casting, revealed in this case that the artificial nonmetallic inclusions were distributed mainly along the surface of the ingots and the pouring gates, though they were encountered also in cross-sections of the ingots, especially in the lower part.

A. Sh.

1. Steel—Inclusions   2. Radiography—Applications

Card 2/2

AUTHORS: Barshcheva, A.S. and Gnuchev, V. S., Engineers 129-7-12/16

TITLE: High speed thin layer cyaniding during high frequency heating.
(Skorostnoye tonkosloynoye tsianirovaniye pri nagreve
tokami vysokoy chastoty).

PERIODICAL: "Metallovedenie i Obrabotka Metallov" (Metallurgy and
Metal Treatment), 1957, No.7, pp.48-50 (U.S.S.R.)

ABSTRACT: The current type cyaniding in baths consisting of
molten cyanide salts enables the saturation of the surface
of components with carbon and nitrogen to depths of 0.1 to
0.6 mm and such components can then be hardened to $R_c = 60$.
This process is impracticable for small components
used in the instrument industry and the aim of the authors
was to develop a process which permits obtaining a cyanide
layer of a depth less than 0.1 mm with hardnesses of $R_c = 60$
and more.   In this paper the results are described
which were obtained by cyaniding by means of high frequency
heating; two variants of this process were tried, namely,
applying a paste prior to heating and cyaniding in molten
potassium ferrocyanide.   After degreasing the component
with benzene a 3 to 4 mm thick layer of the paste was
applied, on the top of which potassium ferrocyanide powder
was sprayed and, following that, the components were dried

Card 1/3

High speed thin layer cyaniding during high frequency
heating. (Cont.)   129-7-12/16

for 40 to 60 minutes at 60 to 70 C.   The heating was
effected by a current of 200 kc/s, 160 kW.   The thickness
of the saturated layers varied between 0.023 and 0.07 mm.
In the other variant potassium ferrocyanide (90%),
barium chloride (10%), were placed in a crucible and
molten by placing it into the first position of the
inductor, then the components were immersed into the
melt and heated in the second position of the inductor
to 840-880 C.   In both variants diffusion layer thicknesses
of 0.04 to 0.06 mm were obtained and the hardness at the
surface varied between R_c = 59 and 62.   Using for such
components medium carbon steels ensures obtaining a
strong base and eliminates the possibility of squeezing
through the thin diffusion layer during normal operation.
The first variant requires a number of preparatory
operations concerned with the manufacture of the paste
and with drying of the paste coated components and,
therefore, it is not recommended for series production.

Card 2/3   In the case of cyaniding in molten salts it is possible
to obtain a given layer thickness with an accuracy up to
0.01 mm and the process can be fitted into an automatic

AUTHOR   GNUCHEV S.M., PRANTSOV V.P., MORENKO G.F., KOMISSAROV G.K., .
KLOCHKOVA Z.V.

TITLE   Melting of Structural Steel in the Electric Furnaces with the
Use of Oxygen Lance. (Vyplavka konstruktsionnoy stali v
elektropechakh s produvkoy kislorodom. Russian)

PERIODICAL Stal' 1957, Vol 17, Nr 3, pp 228 - 232 (U.S.S.R.)
Received: 5/1957   Reviewed: 5/1957

ABSTRACT   The investigation of the technology of the production of
structural steel by means of the addition of greater quantities
of calcium during the melting and on the occasion of the use
of gaseous oxygen during the oxidation period in place of iron
ore showed the following results: the phosphorus content in the
metal after complete smelting of the burden amounted to
0,015 - 0,025 % in the case of experimental smeltings instead
of 0,050 - 0,060 % in the case of the usual smelting. The
oxygen content in the metal before the removal of the oxidation
slag at 0,055 - 0,22 % C amounted to 0,0490 - 0,0190 %. The
MgO content in the slag at the end of the oxidation period
varied between 9,90 and 15,51 %, which does not point in the
direction of an increased destruction of the bottom during
the blowing. The oxygen content in the metal of the experimental

CARD 1/2

CARD 2/2

СЛИТОК И СВОЙСТВА СТАЛИ

Report submitted for the 5th Physical Chemical
Conference on Steel Production, Moscow-- 30 Jun 1959.

S/130/60/000/006/007/011

AUTHORS: Gnuchev, S. M., Zhukov, D. G., Keys, N. V., Klochkova, Z. V.,
            Danilov, P. M., Konovalov, K. N.

TITLE: On the Problem of Transformer Steel Melting

PERIODICAL: Metallurg, 1960, No. 6, pp. 18-22

TEXT: Information is given on peculiarities in the technology of trans-
former steel melting at the "Dneprospetsstal'" Plant, the Kuznetskiy metallur-
gicheskiy kombinat (Kuznetsk Metallurgical Combine) and the Chelyabinskiy
metallurgicheskiy zavod (Chelyabinsk Metallurgical Plant). A special feature
adapted by the Dneprospetsstal' plant is that a relatively high content of C and
S is obtained in the molten charge (0.30-0.40 C and 0.030-0.035% S). The
carbon is oxidized by the ore and then by gaseous oxygen. The reduction time
depends on the sulfur obtained in the finished metal (not over 0.005%). After
teeming the metal is subjected to vacuum treatment in the ladle. At the Kuznetsk
plant the melting process is conducted in a highly organized manner. The
necessary amount of ore and lime is added to the charge so that the oxidizing
and the melting stage are combined. After repeated slag formation the pool is
subjected to oxygen blast; during the blast the carbon content is reduced to

Card 1/2

On the Problem of Transformer Steel Melting   S/13ᴗ/6ᴗ/ᴗᴗ/0ᴗ6/0ᴗᴗ/0�1:

0.02-0.03%. Until 1960, oxidizing at the Chelyabinsk Metallurgical Plant was
brought about with iron ore and subsequent elimination of carbon by blowing the
pool with oxygen. Presently, the oxidation and the melting stage have been
combined; simultaneously with the charge 2.5 t iron ore and 1.0 t lime are
introduced. It was stated that the amount of rejects was relatively low at all
the plants. The dependence of surface defects in slabs on the metal tempera-
ture in the ladle is given and shows that the minimum percentage of rejects is
obtained at a temperature of 1570-1590°C. The content of impurities in metals
produced by the enumerated plants is represented by graphs. The metal produced
at the Chelyabinsk plant contained the highest amounts of carbon, sulfur,
manganese and nickel. The metal from Dneprospetsstal' contained the lowest
amounts of carbon, sulfur and chromium (to 0.005%). The metal from the Kuznetsk
Combine contained more carbon and about 40% of the melts contained 0.006-0.008%
S. Thousandths of a per cent of Ti were revealed in all the metals. Data on
the output of high-grade rolled sheets made of metal which was produced by the
aforementioned plants do not indicate the advantages of one or the other
technology, since an effect of the used technology on the output was not
established. There are 2 sets of graphs and 3 tables.
ASSOCIATIONS: TsNIIChM, Chelyabinskiy metallurgicheskiy zavod (Chelyabinsk
               Metallurgical Plant) Kuznetskiy metallurgicheskiy kombinat
               (Kuznetsk Metallurgical Combine)

Card 2/2

S/137/61/000/007/003/072
A060/A101

AUTHORS: Gnuchev, S. M.; Klochkova, Z. V.

TITLE: Behavior of hydrogen under metal blowing with undried oxygen

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 7, 1961, 44, abstract 7V296
             ("Sb. tr. Tsentr. n.-i. in-ta chernoy metallurgii", 1960, no. 21,
             160-170)

TEXT: At the "Elektrostal'" and "Dneprospetsstal'" Plants experiments have
been carried out on smelting in arc furnaces steels of grades 1Х18Н9Т (1Kh18N9T),
12ХН3А (12KhN3A), 12Х2Н4А (12Kh2NChA), 12ХМф (12KhMF), 25ХГФА (25KhGFA),
30ХГСА (30KhGSA) while blowing technically pure O_2 through the vat. Dried O_2
with moisture content of 0.1 g/m^3 was used in the "Elektrostal'" Plant and
moisture-saturated O_2 - in the "Dneprospetsstal'" Plant. The experiments carried
out have shown that the H-contents in the metals at the end of the oxidation
period are practically the same after blowing with dried and undried O_2; it is
determined by the oxidation rate of the C.
                                                    B. Barskiy

[Abstracter's note: Complete translation]

Card 1/1

S/133/61/000/006/007/017
A054/A129

AUTHORS: Gnuchev, S. M., Candidate of Technical Sciences, Trukhimovich, V. I.,
            Tregubenko, A. F., Frantsov, V. P., Bobkov, T. M., Engineers

TITLE: Melting steel in arc-furnace with electromagnetic stirring of the
            bath

PERIODICAL: Stal', no. 6, 1961, 519-522

TEXT: Electromagnetic stirring was first applied in the USSR, in 1956,
to a ДСВ-18 (DSV-18) type furnace (diameter of the working area: 3,070 mm,
depth of the bath. 605 mm, tranformer capacity: 8,000 kw); further equipment
for stirring was installed in 1959. Tests were carried out to determine the
effect of electromagnetic stirring on the oxygen and sulfur content during the
reduction period and to examine the efficiency of this process. The metal was
stirred in such a way, (Fig. 1a) that after rising from the lower layers at the
outlet opening it spread over the bath surface while two rotation centers were
forming at the bridge. In the present series of tests the maximum rate of metal
movement was 0.25 - 0.40 m/sec at the rear furnace banks and 0.14 - 0.25 m/sec
at the frontal furnace banks, with a frequency of 0.95 - 1.0 cps. During the

Card 1/3

Melting steel in arc-furnace ...

S/133/61/000/006/007/011
A054/A129

tests the electromagnetic stirring went on for the entire period of refining.
Based on the results obtained for the electromagnetic stirring of low-carbon
structural steels, (12XH3A = 12KhN3A, 15XM = 15KhM) it was found that this
process compared with the conventional method accelerated deoxidation consider-
ably, viz. by 30 - 40 minutes. When deoxidizing took place for the usual period,
electromagnetic stirring resulted in a more thorough deoxidation (0.003 - 0.005%
oxygen content before tapping instead of 0.005 - 0.007% when applying the conven-
tional method). Increased deoxidation by electromagnetic stirring was also
recorded for stainless low-carbon steels (0.0035 - 0.0070% oxygen instead of
0.007 - 0.013% in the old process). The distribution coefficient of sulfur
during reduction when applying the electromagnetic stirring method was higher,
whereas the sulfur-content in the metal was lower than in the usual castings.
No increase in hydrogen and nitrogen content was observed, nor did the furnace
bottom display any increased wear and tear when electromagnetic stirring was
applied. It was possible to accelerate the skimming of slag by 5-10 minutes,
which increased the furnace capacity by 10%; moreover, manual labor could be
entirely eliminated from this process. The temperature of the metal reached an
average value more quickly and could be controlled more easily than in the usual
manner. The bath also had a more uniform chemical composition. All these factors

Card 2/3

Melting steel in arc-furnace ...

S/133/61/000/006/007/017
A054/A129

improved the quality of the metal considerably. It was found that the waste decreased in electromagnetically stirred molten metals. This could be established for 18ХНВА (18KhNVA), 12ХН3А (12KhN3A), 40ХНМА (40KhNMA) steels. The waste in ball bearing steel decreased also, as a result of the drop in globular inclusions, whereas the oxide and sulfide impurities occur in about the same amounts in both processes. The drawbacks of the electromagnetic stirring equipment are: 1) the air-cooling of the stators is insufficient and does not prevent their overheating; 2) on account of the slow motion of the metal at the bath surface it is not possible to mechanize the stirring of slag. For this purpose it would be necessary to raise the current intensity in the stator above the nominal value and to intensify cooling suddenly; 3) in the present construction the bath must first be removed when repairs are necessary, when the stator has to be mounted or dismantled. There are 3 figures, 4 tables and 2 Soviet-bloc references.

Fig. 1a: Scheme of the metal-circulation in the bath applied in the tests
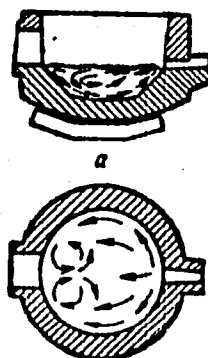
Card 3/3

S/081/61/000/021/027/094
B101/B147

AUTHOR: Gnuchev, S. M.

TITLE: Determination of small nitrogen amounts in steel

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1961, 108, abstract
             21D85 (Sb. tr. Tsentr. n.-i. in-t chernoy metallurgii,
             no. 19, 1960, 132 - 135)

TEXT: To verify the stability of results obtained by various analytical
methods, the N_2 content was determined in one and the same nickel
chromium structural steel samples by three methods: (1) chemical method
with volumetric N_2 determination; (2) chemical method with colorimetric
nitrogen determination; and (3) method of vacuum melting with N_2 deter-
mination "based on the nonabsorbed residue" (RZhKhim, 1961, 20D119). Data
obtained by methods 2 and 3 are very close. Results found by method 1
are strongly exaggerated (1.5 - 2 fold). The maximum deviation of
results for two parallel samples, analyzed by each of the three methods
mentioned, generally does not exceed 0.001% absolute. Therefore, the

Card 1/2

MAZUROV, Ye.F.; GNUCHEV, S.M.; SKRIPCHUK, V.S.; MARKIN, A.A.; LYALIN, Ye.S.

Sponge iron used as a charge material. Metallurg 9 no.11:17-19
N '64.   (MIRA 18:2)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy
metallurgii imeni I.P.Bardina.

TRAKHIMOVICH, V.I., SALAUTIN, V.A., GNUCHEV, S.M.

Methods for determining the technological plasticity of a metal in hot deformation. Zav. lab. 30 no.9:1116-1119 '64.

(MIRA 18:3)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii imeni Bardina.

L 9538-66   EWT(m)/EWA(d)/EWP(t)/EWP(s)/EWP(b)   MJW/JD

ACC NR: AP5026288   SOURCE CODE: UR/0125/65/000/010/0007/0011

AUTHOR: Russiyan, A. V. (Candidate of technical Sciences); Salautin, V. A. (Engineer); Pavperova, I. A. (Engineer); Gnuchev, S. M. (Candidate of technical sciences)

ORG: TsNIIChM

TITLE: Resistance of austenitic steel EI847 to the formation of hot cracks during welding as a function of melting technology

SOURCE: Avtomaticheskaya svarka, no. 10, 1965, 7-11

TOPIC TAGS: austenitic steel, hot crack, weld defect, metallurgic furnace, arc furnace, induction furnace, ferroalloy / EI847 (Khl6N15M3B) austenitic steel

ABSTRACT: The purely austenitic EI847 (Khl6N15M3B) steel is designed chiefly for tube production. Its yield point, tensile strength and other properties are sufficiently high at 20 and 600°C. Since, however, occasionally melts of this steel do not behave up to expectations, the authors experimentally investigated the effect of different conditions of its production on its resistance to the formation of hot cracks in the near-weld zone and in the weld metal. Some melts were obtained in a 20-ton arc furnace and others in a 50-kg induction furnace on either using fresh charge (carbon steel or armco iron plus alloy elements) with oxidation of slag or remelting the alloyed wastes with addition of oxygen. Alloying with either alloy metals (Cr metal, Nb metal, Mo metal) or ferroalloys (ferrochrome, ferroniobium, fer-

Card 1/2   UDC: 621.791.75:621.746.76

L 9538-66

ACC NR: AP5026288   O

romolybdenum) was employed. Specimens of these steels were subjected to torsional
fracture tests at 1250°C, since such tests satisfactorily simulate the conditions
of the thermal welding cycle in the near-weld zone along with the formation of hot
cracks. Findings: the melts of steel to which alloy metals were added displayed
higher technological qualities and contained smaller amounts of impurities and hence
also were more resistant to the formation of hot cracks than the melts to which in-
dustrial ferroalloys were added. Orig. art. has: 1 figure, 5 tables.

SUB CODE: 11,13/ SUBM DATE: 25Jul64/ ORIG REF: 008/ OTH REF: 000

Card 2/2

RUSSIYAN, A.V.; SHIATIN, V.A., [illegible],

Resistance of 1847 steel to hot cracking during welding depending on the technology of smelting. Avtom. svar. 18 no.10:7-11 O '65.   (MIRA 18:12)

1. TSentral'nyy issledovatel'skiy institut chernoy metallurgii.

L 27427-66   EWT(m)/EWA(d)/EWP(v)/T/EWP(t)/ETI/EWP(k)   IJP(c)   JD/HW/JG

ACC NR: AP6017780   SOURCE CODE: UR/0133/65/000/009/0855/0855

AUTHOR: Trakhimovich, V. I.; Gnuchev, S. M.

ORG: Central Scientific Research Institute of Ferrous Metallurgy im. I. P. Bardin (Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii)

TITLE: Hot ductility and crack resistance in welding 1Kh13M2BFR steel containing additions of cerium, lanthanum and yttrium

SOURCE: Stal', no. 9, 1965, 855

TOPIC TAGS: ductility, induction furnace, rare earth metal, steel, boron/1Kh13M2BF steel

ABSTRACT: The steel was melted in a 40-kg induction furnace. Rare earth metals (REM) (98% pure) were introduced in a 0.01-0.15% quantity 3 minutes before tapping. Their residual contents, independent of the calculated addition, amounted to 0.003-0.010%. The combined or individual introduction of boron and REM into 1Kh13M2BF $\underline{/}$sic$\underline{/}$ steel increases its ductility and crack resistance. Up to 0.004% boron increases these characteristics, but if it is more than 0.004% it decreases them. The addition of REM permits the preservation of these high indicators of ductility in steel containing up to 0.010% B. The introduction of REM into steel without boron offers the same effect as the best addition of boron. The high indicators of ductility and crack resistance in this case are obtained in the entire range of calculated and residual concentrations of REM investigated. The individual effect of cerium, lanthanum, or yttrium on ductility was not observed. [JPRS]

SUB CODE: 11, 13, 20 / SUBM DATE: none
Card 1/1   UDC: 669.18-412:621.746.753.001.5

L 31323-66   EWP(w)/EWA(d)/T/EWP(t)   IJP(c)   JD/JG

ACC NR: AP5026288

SOURCE CODE: UR/0125/65/000/010/0007/C011

AUTHOR: _Russiyan, A. V. (Candidate of technical Sciences); Salautin, V. A. (Engineer); Pavperova, I. A. (Engineer); Gnuchev, S. M. (Candidate of technical sciences)

ORG: TsNIIChM

TITLE: Resistance of austenitic steel EI847 to the formation of hot cracks during welding as a function of melting technology

SOURCE: Avtomaticheskaya svarka, no. 10, 1965, 7-11

TOPIC TAGS: austenitic steel, hot crack, weld defect, metallurgic furnace, arc furnace, induction furnace, ferroalloy / EI847 (ØKh16N15M3B) austenitic steel

ABSTRACT: The purely austenitic EI847 (ØKh16N15M3B) steel is designed chiefly for tube production. Its yield point, tensile strength and other properties are sufficiently high at 20 and 600°C. Since, however, occasionally melts of this steel do not behave up to expectations, the authors experimentally investigated the effect of different conditions of its production on its resistance to the formation of hot cracks in the near-weld zone and in the weld metal. Some melts were obtained in a 20-ton arc furnace and others in a 50-kg induction furnace on either using fresh charge (carbon steel or armco iron plus alloy elements) with oxidation of slag or remelting the alloyed wastes with addition of oxygen. Alloying with either alloy metals (Cr metal, Nb metal, Mo metal) or ferroalloys (ferrochrome, ferroniobium, fer-

Card 1/2

UDC:. 621.791.75:621.746.76

L. 10450-67   EWT(m)/EWT(w)/EWT(t)/ETI   IJP(c)   JD/JG
SOURCE CODE: UR/0133/66/000/004/0355/0358

ACC NR: AP6022509

AUTHORS: Vinograd, M. I.; Gnuchev, S. M.; Gromova, G. P.; Smirnova, A. V.; Ryl'nikova, A. G.; Osnovin, V. A.; Krasnova, A. K.; Likhnova, I. V.; Yegorshina, T. V.

ORG: none

TITLE: Nonmetallic inclusions in melts of steel 08Kh20N10G6 exhibiting different hot technological plasticity

SOURCE: Stal', no. 4, 1966, 355-358

TOPIC TAGS: alloy steel, metallurgic research, aluminum, cerium / 08Kh20N10G6 alloy steel

ABSTRACT: The effect of aluminum and rare earth elements (mainly cerium) on the technological plasticity of steel 08Kh20N10G6 was investigated. The investigation supplements the results of V. A. Osnovin and S. M. Gnuchev (Byulleten' TsIINChM, 1964, No. 6). The microstructure and twisting strength of the specimens was determined as a function of the temperature and nature of the reducing agent (see Fig. 1). It was found that addition of 1.5--2.0 kg/ton of Al and rare earth metals (0.15--2.0% on the basis of Ce) to steel 08Kh20N10G6 leads to a considerable increase in the high temperature plasticity of the latter. S. B. Lebedeva, I. A. Prokof'yeva, and L. I. Volkova participated in the experimental work.

UDC: 669.15:658.562

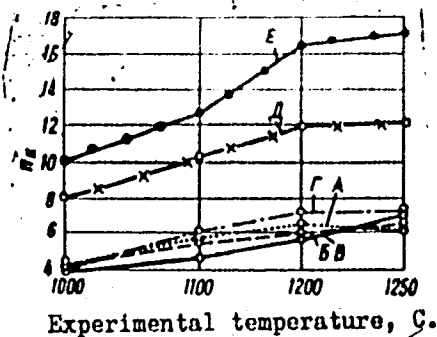Card 1/2

L 10450-67

ACC NR: AP6022509

Experimental temperature, °C.

Fig. 1. Results of torsion tests at high temperatures
(n_k – number of revolutions at which failure occurred)
of different melts A – E. Specimen A reduced in the
usual way. All others reduced as described above.

Orig. art. has: 1 graph and 6 photographs.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 009

ACC NR: AP7003871   (N)   SOURCE CODE: UR/0133/67/000/001/0044/0044

AUTHOR: Gnuchev, S.M.; Salautin, V.A.; Klochkova, Z.V.; Mazurov, Ye.P.

ORG: none

TITLE: Effect of some processes during steel melting in a 100-ton arc furnace

SOURCE: Stal', no. 1, 1967, 44

TOPIC TAGS: ~~silicon~~ steel production, silicon steel, ~~technology~~ metal
melting, arc furnace, steel manufacture process

ABSTRACT: A technological process of making silicon steel in an arc furnace has
been developed by the Central Scientific Research Institute of Ferrous
Metallurgy im. Bardin in cooperation with the Novolipetsk Metallurgical
Plant. The process combines melt-down and oxidizing periods and elimi-
nates ore addition after melting of charge. A water-cooled oxygen lance
is used for metal blowing and electromagnetic stirring of melted metal.
Nonmetallic impurities are removed by slag treatment while the metal is
tapped into the ladle. Oxygen is blown into the bath for 10—15 min
when the carbon content reaches 0.08—0.12%. The process decreases the
refining period to 1 hr and reduces the oxygen content closer to the
equilibrium state and the sulfur content to 0.003%.   [AZ]

SUB CODE: 11,13/   SUBM DATE: none/   ATD PRESS: 5114
Card   1/1   UDC: 669.187.2.001.5

GLUCHEV, V.N.; KHAVAYEV, N.I., tekhn. red

[Briefly on programming] Korotko o programmirovanii. Mo-
skva, Mosk. gos. ekonom. in-t, 1959. 9 p.   (MIRA 16:10)
       (Programming (Electronic computers))